

REMARKS

Responsive to the Office action mailed January 22, 2008, applicant request entry of the foregoing amendments, consideration of the following remarks and reconsideration of the rejections set forth in said office action.

Claims 1-2, 4, 8 and 11 were rejected under 35 USC 102(b) as being anticipated by Watson et al. (US Patent No. 5,853,619). Applicant submits that claims 1-2, 4, 8 and 11, as amended, are not anticipated by Watson et al. '619.

The present invention is directed toward the discovery that adding a specific sulfur compound, having both a carboxyl functional group and a mercaptan functional group, makes it possible to inhibit naphthenic acids caused corrosion of the metal walls of a refining plant. The specific sulfur compound, of the general formula HS-B-COOR, was found to reduce corrosion of acidic crude oils having a TAN of greater than 0.2. The corrosion inhibitor of the present invention was found to reduce the corrosion of such acidic crude oils sufficiently to allow processing of crude oil having a TAN greater than 0.2 in conventional refinery units.

Watson et al. '619 discloses a corrosion inhibitor comprising a synergistic combination of a mercaptocarboxylic acid having from 2 to 6 carbon atoms and a polyamine/fatty acid/carboxylic acid adduct. Watson et al.'619 fails to disclose what corrosive agent the claimed combination controls. Furthermore, the examples of Watson et al. '619 are limited to evidencing the control of the corrosion induced by a brine/kerosene mixture. See column 8, line 27. It is submitted that Watson et al. '619 fails to disclose, either expressly or by implication, corrosion inhibition in acidic hydrocarbons having a TAN number greater than 0.2.

Claim 1 has been amended to clarify that the corrosion inhibitor of the present invention is effective without being combined with another corrosion inhibitor and that it is effective in treating hydrocarbon streams having a TAN of greater than 0.2. Applicant submits that Watson et

al. '619 fails to anticipate the present invention as currently claimed.

Claims 5-7 and 12-13 were rejected under 35 USC 103 (a) as being unpatentable over Watson et al. '619. Applicant submits that Watson et al. '619 fails to render obvious the present invention. As discussed above, Watson et al. '69 fails to disclose the control of naphthenic acid induced corrosion in hydrocarbon streams having a TAN of greater than 0.2. It is submitted that disclosure of corrosion control in a brine/kerosene mixture would not make it obvious to a person skilled in the art the effect in a hydrocarbon stream having sufficient naphthenic acid to result in a TAN of greater than 0.2.

Claims 3 and 9-10 were rejected under 35 USC 103(a) as being unpatentable over Watson et al. (US Patent No. 5,853,619) in view of Takahashi et al (US Patent No. 4,981,828). Applicant submits that neither Watson et al. '619 nor Takahashi et al. '828 singly or in combination render obvious the present invention.

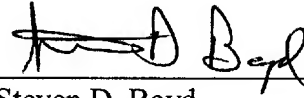
As discussed above, Watson et al. '619 fails to disclose the control of naphthenic acid induced corrosion in hydrocarbon streams having a TAN greater than 0.2

Takahashi et al. '828 discloses, in part, a method of activating a catalyst to be used in hydrotreating of a hydrocarbon with sulfiding agents such as mercaptocarboxylic acids. Applicant submits that there is no disclosure in Takahashi et al. '828 related to corrosion inhibition. It is submitted that Takahashi et al. '828 is not a relevant reference with regard to corrosion inhibition. A person skilled in the art of corrosion inhibition would not be lead to search in the catalyst activation art for corrosion inhibitors. It is submitted that it is not obvious to combine Watson et al. '619 and Takahashi et al. '828. Further, it is submitted that even if it were obvious to combine Watson et al. '619 and Takahashi et al. '828, the present invention is not rendered obvious. As discussed above, Watson et al. '619 fails to anticipate or render obvious the control of naphthenic acid induced corrosion in a hydrocarbon stream having a TAN number greater than 0.2. Takahashi et al. 828 fails to include any disclosure that remedies this deficiency.

In view of the foregoing remarks, applicant respectfully submits that claims 1-4 and 6-13 of the present application are in condition for allowance and prompt favorable action is solicited.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven D. Boyd", is written over a horizontal line.

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